UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,124	07/07/2003	Hiroshi Daiku	100021-00127	8185

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EXAMINER
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ART UNIT	PAPER NUMBER
2622	

NOTIFICATION DATE	DELIVERY MODE
03/25/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>17 December 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,2,4 and 5</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,2,4 and 5</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>07 July 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   The Examiner acknowledges the amendments made to the claims filed on

December 17, 2007. **Claims 1 and 4** have been amended. **Claims 3 and 6** have been

canceled.

Response to Arguments

2.   Applicant's arguments with respect to **claims 1 and 4** have been considered but

are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   **Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over Baharav et al., US Patent 6,989,862 B1 in view of Aruga et al.,

US Patent 6,429,896 B1 and further in view of Morad et al., US Patent 6,385,244

B1.

       Regarding claim 1, Baharav et al. discloses a resolution conversion method

(Figs. 3 and 6) for converting color data output from a single-plate-type color-image

sensor (Image capturing unit 102 as shown in figs. 1 and 5) into data of a

predetermined resolution (Col. 2, lines 22 – col. 3, line 23; col. 3, line 60 – col. 5, line

65) and at the same time, processing the color data so that the pixel positions of

respective colors coincide with each other (Col. 2, lines 22 – col. 3, line 23; col. 3, line

60 – col. 5, line 65), wherein resolution conversion processing that converts the data of

each pixel into data of the predetermined resolution and simultaneous processing that

processes the color data so that the pixel positions of respective colors coincide with

each other are performed simultaneously in a circuit (Fig. 1: 104; col. 2, lines 22 – col.

3, line 23; col. 3, line 60 – col. 6, line 39; col. 7, line 36 – col. 8, line 21).

        Baharav et al. does not explicitly disclose that the resolution conversion

processing is treated by one of a plurality of processing units converting resolution,

each other and the processing unit is selected and executed according to an external

direction.

        However, Aruga et al. discloses a method of changing the resolution of a

captured image in a digital camera (CA as shown in figs. 2 and 3), herein said digital

camera comprises a ROM (16 as shown in fig. 3) having instructions stored in advance,

to convert the color data into different resolutions and wherein said instructions to

change the resolution of the image data are selected and executed according to an

external direction (external storage device OM as shown in figs. 1-3) (Col. 1, lines 45-

62; col. 3, line 26 – col. 4, line 41; col. 7, lines 21-38).

        Therefore, taking the combined teaching of Baharav et al. in view of Aruga et al.

as a whole, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Baharav et al. to have plural processes to convert the color data into different resolutions are stored in advance and some of the plural processes are selected and executed according to an external direction. The motivation to do so would have been to improve the operation of a digital camera by allowing the user have the option of changing the resolution of the camera with the purpose of either save space in memory or obtain high quality pictures and also to reduce the number of parts of the digital camera since the functions of the camera are selected from an external apparatus.

Although Aruga discloses the having a plurality of processes stored in memory to convert the resolution of the images into different resolution based on the user selection, the combined teaching of Baharav et al. in view of Aruga et al. fails to teach that that the resolution conversion processing is treated by one of a plurality of processing units converting resolution, each other.

However, Morad et al. discloses the concept of having a camera (Fig. 12) with a plurality of processors (low resolution processor 150, full resolution processor 152 and hyper resolution processor 154 as shown in fig. 5) to supply images with different resolution from an image or video frame (Col. 4, lines 9- 52; col. 8, line 6 – col. 10, line 19; col. 14, lines 46-67).

Therefore, taking the combined teaching of Baharav et al. in view of Aruga et al. and further in view of Morad et al. as a whole, after acknowledging the advantages of having a dedicated circuit performing operations normally performed by a program, it would have been obvious to one of an ordinary skill in the art at the time the invention

was made to modify the teaching of Baharav et al. and Aruga et al. to have the resolution conversion performed by a plurality of processors, each performing a different resolution processing. The motivation to do so would have been to allow faster processing of the resolution conversion thus increasing the overall processing speed of the processing circuit.

> **Regarding claim 2**, Baharav et al. discloses that the resolution conversion processing and the simultaneous processing perform weighting operations on the color data of pixels including each pixel and neighboring pixels adjacent to said each pixel (Col. 1, lines 23-62; col. 5, lines 22-57 col. 6, lines 40-67).

> **Regarding claim 4**, Baharav et al. discloses a pixel data processing circuit (Figs. 1 and 5) comprising a resolution conversion/simultaneous processing circuit (104 as shown in figs. 1 and 5) that converts color data output from a single-plate-type color-image sensor (Image capturing unit 102 as shown in figs. 1 and 5) into data of a predetermined resolution and, at the same time, that processes the color data so that the pixel positions of respective colors coincide with each other (Col. 2, lines 22 – col. 3, line 23; col. 3, line 60 – col. 5, line 65), wherein the resolution conversion/simultaneous processing circuit performs simultaneously the resolution conversion processing that converts the data of each pixel into data of the predetermined resolution and the simultaneous processing that processes so that the pixel positions of respective colors coincide with each other (Fig. 1: 104; col. 2, lines 22 – col. 3, line 23; col. 3, line 60 – col. 6, line 39; col. 7, line 36 – col. 8, line 21).

Baharav et al. does not explicitly disclose that the resolution
conversion/simultaneous processing circuit includes a plurality of processing units
converting resolution, the plurality of processing units execute different resolution
conversions with each other and the processing unit is selected and executed according
to a direction from the outside.

However, Aruga et al. discloses a method of changing the resolution of a
captured image in a digital camera (CA as shown in figs. 2 and 3), herein said digital
camera comprises a ROM (16 as shown in fig. 3) having instructions stored in advance,
to convert the color data into different resolutions and wherein said instructions to
change the resolution of the image data are selected and executed according to an
external direction (external storage device OM as shown in figs. 1-3) (Col. 1, lines 45-
62; col. 3, line 26 – col. 4, line 41; col. 7, lines 21-38).

Therefore, taking the combined teaching of Baharav et al. in view of Aruga et al.
as a whole, it would have been obvious to one of ordinary skill in the art at the time the
invention was made to modify Baharav et al. to have the predetermined resolution is
directed from the outside and that the resolution conversion/simultaneous processing
circuit stores plural processes to convert the color data into different resolutions and
selects and executes some of the plural processes according to a direction from the
outside. The motivation to do so would have been to improve the operation of a digital
camera by allowing the user have the option of changing the resolution of the camera
with the purpose of either save space in memory or obtain high quality pictures and also

to reduce the number of parts of the digital camera since the functions of the camera
are selected from an external apparatus.

Although Aruga discloses the having a plurality of processes stored in memory to
convert the resolution of the images into different resolution based on the user
selection, the combined teaching of Baharav et al. in view of Aruga et al. fails to teach
that that the resolution conversion/simultaneous processing circuit includes a plurality of
processing units converting resolution, the plurality of processing units execute different
resolution conversions with each other.

However, Morad et al. discloses the concept of having a camera (Fig. 12) with a
plurality of processors (low resolution processor 150, full resolution processor 152 and
hyper resolution processor 154 as shown in fig. 5) to supply images with different
resolution from an image or video frame (Col. 4, lines 9- 52; col. 8, line 6 – col. 10, line
19; col. 14, lines 46-67).

Therefore, taking the combined teaching of Baharav et al. in view of Aruga et al.
and further in view of Morad et al. as a whole, after acknowledging the advantages of
having a dedicated circuit performing operations normally performed by a program, it
would have been obvious to one of an ordinary skill in the art at the time the invention
was made to modify the teaching of Baharav et al. and Aruga et al. to have the
resolution conversion performed by a plurality of processors, each performing a different
resolution processing. The motivation to do so would have been to allow faster
processing of the resolution conversion thus increasing the overall processing speed of
the processing circuit.

Regarding claim 5, limitations can be found in claim 4.

Conclusion

5.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Contact

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nelson D. Hernández whose telephone number is

(571)272-7311. The examiner can normally be reached on 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nelson D. Hernández
Examiner
Art Unit 2622

NDHH
March 14, 2008

/Lin Ye/

Supervisory Patent Examiner, Art Unit 2622